

Comprehensive Plan

Federal Environment Element



National Capital Planning Commission



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PREFACE

This Federal Element of the *Comprehensive Plan for the National Capital* identifies the federal interest and federal planning policies relating to the environment of the National Capital Region (NCR). It is one of the elements of the Comprehensive Plan that deals with subjects of federal interest that affect federal development and federal functions in the National Capital Region. Although the element has no regulatory effect, it is intended to encourage coordinated federal, regional, state, and local planning and implementation processes and procedures.

This element provides planning guidance for:

- Commission review of systems plans, master plans, federal and District projects, capital improvement programs, and other activities.
- Preparation by federal agencies of systems plans, master plans, project plans, and capital improvement programs.
- Federal interest review by the Commission of local, regional, and state plans and proposals in the National Capital Region.
- Federal interest review by the Commission of proposed elements of the *Comprehensive Plan for the National Capital*.
- Federal interest review by the Commission of public and private sector undertakings in the National Capital Region involving federal funding and/or licensing.

The specific purposes of this element of the Comprehensive Plan are to:

- Identify the federal interest and the Commission's concerns regarding the maintenance, protection, and enhancement of the quality of the environment in the National Capital Region.
- Aid in the conservation of natural resources and in the protection of the human environment.
- Provide a framework within which the environmental implications of projects and development proposals on the natural and human environment and health can be evaluated.
- Aid in the management of the Region's environmental resources and the mitigation of environmental problems in cooperation with state and local governments in the Region.

OVERVIEW OF KEY ENVIRONMENTAL LAWS AND PROGRAMS

The federal government should serve as an environmental steward in the NCR. It's activities, programs, and directives should support the enhancement of the area's environment and reduce any adverse effects on the environment and human health. Over the years, and due mainly to increased public scrutiny and well-publicized environmental justice issues, several programs at the federal, state, and local government levels have been developed to improve the quality of the environment. There are also several Presidential Directives (Executive Orders) that encourage the federal government to assume a leadership role in improving the environment. For example, in the Washington area the Chesapeake Bay 2000 Program has been developed to protect, restore, and enhance the Chesapeake Bay and the natural resources that rely on the Bay's continued good health. Programs such as this highlight the importance of federally sponsored efforts to improve the overall quality of the environment as well as the quality of life in the National Capital Area.

Key Environmental Laws

Congress has enacted a number of environmental laws that address the federal government's responsibility for protecting and conserving environmental resources. These laws cut across all federal programs. Regulations that have been developed since the passage of these laws often require federal agencies to consider the impact of agency plans, programs, and actions on particular environmental resources. Furthermore, these impacts must be documented as part of the agency's decision-making process. Federal activities that could have an effect include agency initiatives that could physically disrupt the environment, such as construction projects, and the issuance of grants or permits to facilitate such projects.

All federal agencies must comply with these laws in carrying out their activities unless a statute provides for an exemption or deferral. Chief among these federally sponsored measures is the National Environmental Policy Act of 1969 (NEPA) which establishes a national policy aimed at protecting the environment. Consultation with administering agencies usually begins early in the planning stages of a program or project. This avoids delays that might be incurred from having to address an impact related to an undertaking later in the planning process when it may be more difficult and time consuming for the agency to make changes. An evaluation of compliance with these laws is usually integrated into other statutory reviews, such as NEPA and, in the NCR, the Commission's project review and master planning processes.

National Environmental Policy Act of 1969

The strong federal presence in the National Capital Region and the proximity of many federal facilities to significant natural resources (i.e., parks, open spaces and waterways) makes it imperative that special efforts be made by federal facilities to follow not only the letter but the spirit of the policies embodied in the National Environmental Policy Act of 1969 (NEPA). NEPA requires federal agencies to evaluate the effects of their actions on the quality of the human environment. Meeting NEPA's requirements and the Council on Environmental Quality's

Regulations for implementing the procedural provisions of NEPA will help the Commission and submitting agencies assess and properly address environmental impacts early in the master planning and project planning processes.

Clean Air Act of 1990

Under the provisions of the Clean Air Act of 1990, the U.S. Environmental Protection Agency (EPA) sets limits on how much of a pollutant can be in the air anywhere in the United States. Setting national standards ensures that all Americans have the same basic health and environmental protections when it comes to air quality. The Clean Air Act allows individual states to implement stronger pollution controls and standards. States however are not allowed to have controls weaker than those set for the nation. The law recognizes that the states should take the lead in carrying out the intent of the Act. The Act also provides for the creation of interstate commissions on air pollution to develop regional strategies for cleaning up air pollution, including provisions to reduce interstate air pollution. The Act gives enforcement powers to EPA to penalize violators of the Act--much like a police officer giving a traffic ticket--and sets deadlines for states, local governments, and businesses to reduce air pollution. The Act has many features designed to clean up air pollution as efficiently and inexpensively as possible, letting businesses decide on the best way to achieve pollution clean-up goals.

Clean Water Act of 1977

The Clean Water Act (CWA) of 1977 is an amendment to the Federal Water Pollution Control Act of 1972, which sets the basic structure for regulating discharges of pollutants to the waters of the United States. The law gives EPA the authority to establish effluent standards and the requirements to meet those standards on an industry-wide basis and to set water quality standards for all contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a permit is obtained under the CWA. Under the provisions of the CWA, EPA can delegate both administrative and enforcement authority to state governments. EPA does, however, retain oversight responsibility.

Resource Conservation and Recovery Act of 1976

This Act required the EPA to issue guidelines for environmentally sound waste management practices. These guidelines are mandatory for federal agencies and those who use federal lands for waste disposal. In addition, the statute requires all federal agencies to comply with federal, interstate, state, and local waste management requirements and to provide a market for recovered material through procurement processes. EPA has established further criteria under this statute to identify and classify hazardous waste materials and sites and requirements to clean up such pollution sources.

Endangered Species Act of 1973

The purpose of the Endangered Species Act is to ensure that federal agencies and departments use their authorities to protect and conserve endangered and threatened species. Section 7 of the Act requires that federal agencies prevent or modify any projects authorized, funded, or carried out under their jurisdiction that are likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of such

species' critical habitats. The U.S. Department of the Interior, through the Fish and Wildlife Service (FWS), and the U.S. Department of Commerce, through the National Marine Fisheries Service (NMFS), administer the Act. Federal agencies must review actions they undertake or support to determine whether they could affect endangered species or their habitats. If such review reveals the potential for effects, the federal agency must consult with the FWS or NMFS, as appropriate.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as Amended

This Act requires the federal government to assume certain responsibilities for land formerly owned or controlled by federal agencies, such as military and other sites that are identified as having recognized adverse environmental conditions resulting from previous federal activities. As consistent with federal law, particularly those under the covenant provisions of the Act, as amended, federal agencies are required to remediate certain recognized environmental conditions existing on, in, or under lands or bodies of water used by the federal government during its past ownership or control and in a manner not consistent with current standards and practices. Remediation activities may include studies of areas where these environmental conditions may exist and remediating thereafter as required, based on the findings of those studies.

Key Environmental Executive Orders

The following Executive Orders contain environmental policies and procedures directed at the federal government's responsibility for protecting the natural environment. Federal agencies are required to conduct activities and operations in a manner that will not adversely impact environmental resources. In the past, the President has issued a number of Executive Orders that address the federal responsibility to protect and conserve environmental resources. Some examples of past Orders intended to protect the nation's vital natural resources include, but are not limited to:

Executive Order 12088: Federal Compliance with Pollution Control Standards

Environmental conditions at federal facilities must be periodically monitored as required under this Executive Order. EPA has issued an Environmental Auditing Policy Statement (July 9, 1986) and a Restatement of Policies Related to Environmental Auditing (July 28, 1994), which, among other topics, specifically address federal monitoring of environmental conditions through regular auditing at federal facilities. These policies encourage all federal agencies to develop internal auditing systems to achieve, maintain, and monitor federal compliance with environmental laws and conditions at federal facilities.

Executive Order 12898: Federal Actions To Address Environmental Justice In Minority Populations and Low Income Populations

This Order provides, to the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, that each federal agency must achieve environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its

programs, policies, and activities on minority populations and low-income populations. Federal agencies must develop an agency-wide environmental justice strategy that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The environmental justice strategy must list programs, policies, planning and public participation processes, enforcement, and/or rulemakings related to human health or the environment that, at a minimum: (1) promote enforcement of all health and environmental statutes in areas with minority and low-income populations; (2) ensure greater public participation; (3) improve research and data collection relating to the health and environment of minority populations and low-income populations; and (4) identify differential patterns of consumption of natural resources among minority populations and low-income populations.

Executive Order 11514: Protection and Enhancement of Environmental Quality, 1970

This order requires the federal government to provide leadership in protecting and enhancing the quality of the Nation's environment to sustain and enrich human life in furtherance of the purposes and policies of NEPA. It requires federal agencies to direct their policies, plans, and programs to meet national environmental goals. On a continuing basis, federal agencies must monitor, evaluate, and control their activities in order to protect and enhance the quality of the environment. Additionally, the Executive Order requires agencies to develop procedures to provide timely public information on federal plans and programs having the potential to generate environmental impacts in order to obtain the views of all interested parties.

Executive Order 11990: Protection of Wetlands, 1977

The purpose of Executive Order 11990 is to “minimize the destruction, loss or degradation of wetlands and preserve and enhance the natural and beneficial values of wetlands.” To meet these objectives, the Order requires federal agencies in their planning actions to consider alternatives to wetland development and limit potential damage if an activity affecting a wetland cannot be avoided. The Order applies to acquisition, management, and disposition of federal lands and facilities and to construction and improvement projects that are undertaken or financed by federal agencies. The Order impacts federal activities and programs affecting land use, including, but not limited to, water and related land resources planning, regulation, and licensing activities. Each agency is responsible for preparing procedures for carrying out the provisions of the Order. Federal projects reviewed by NCPC are submitted by federal agencies that have established procedures in accordance with the Order.

Executive Order 11988: Floodplain Management, 1977

Executive Order 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains.

Supplemental Environmental Executive Orders of 2000

Federal Leadership in Improving the Quality of the Environment

Several recent Executive Orders have been issued to highlight the responsibilities of the federal government as a steward for the environment. These directives (effective October 1, 2000) require that federal agencies, as part of their planning and daily operations, implement new environmentally friendly procedures and policies aimed at ensuring that individual agencies exercise leadership in improving the quality of the environment. For the uses of this document, the purpose and intent of each Order is summarized below:

- Order-13149: “Greening the Government through Federal Fleet and Transportation Efficiency.” This directive ensures that federal agencies exercise leadership in the use of alternative fuels and alternative fuel vehicles to promote a healthier environment through the reduction of greenhouse gases and other pollutants.
- Order-13134: “Developing and Promoting Biobased Products and Bioenergy.” This Executive Order ensures that federal agencies promote bioenergy technologies as sources of affordable electricity and as a way of reducing dependence on foreign energy sources, improving air and water quality, providing flood control, decreasing erosion, and minimizing the production of greenhouse gases.
- Order-13101: “Greening the Government Through Waste Prevention, Recycling and Federal Acquisition.” This Order promotes waste and pollution prevention by requiring recycling and treatment of non-recyclable waste products in an environmentally safe manner.
- Order-13123: “Greening the Government Through Efficient Energy Management.” This directive encourages the reduction of various emissions that contribute to air pollution and promotes energy efficient building design, construction methods, and operations.
- Order-13150: “Federal Workforce Transportation.” As a result of this Executive Order, federal agencies are encouraged to make greater use of mass transit and vanpools and other alternative methods of transportation.
- Order-13148: “Greening the Government Through Leadership in Environmental Management.” This Executive Order encourages federal agencies to: use regionally native plants for landscaping; improve management practices; reduce the use of toxic chemicals and other harmful substances that may impact water quality; and implement water and energy efficient practices.

Key Regional Planning Initiatives

Chesapeake Bay 2000 Program

In 1983 and 1987, the states of Virginia, Maryland, and Pennsylvania, and the District of Columbia joined with the Chesapeake Bay Commission and the EPA, representing the federal government, to sign agreements establishing the Chesapeake Bay 2000 Program and partnership. The Chesapeake Bay 2000 Program and partnership agreements address important regional

environmental concerns shared by the Nation's Capital and surrounding jurisdictions. The NCPC Chairman signed the Federal Agencies Chesapeake Ecosystem Unified Plan in December 1998. The purpose of this partnership is the protection and restoration of the Bay's vital ecosystem. The most recent update to this cooperative effort, the Chesapeake Bay 2000 Program, recognizes the importance of protecting and maintaining a healthy Chesapeake Bay, along with its watersheds and tributaries. As a major land owner in the Region, the federal government has committed to providing leadership in efforts directed at protecting the Bay by supporting the goals, policies, and initiatives contained in the Chesapeake Bay 2000 Program. The program goals include the following:

- The "Living Resource Protection and Restoration" effort is intended to restore and protect finfish, shellfish, and other living resources, and their habitats and ecological relationships to sustain fisheries and provide for a balanced ecosystem.
- The "Vital Habitat Protection and Restoration" effort encourages preservation and restoration of those habitats and natural areas that are vital to the survival and diversity of the Bay's living resources and those within its tributaries.
- The "Water Quality Protection and Restoration" effort is intended to achieve and maintain the water quality necessary to protect the Bay's aquatic resources, its tributaries, and human health.
- The "Sound Land Use" effort seeks to: 1) develop, promote, and achieve sound land use practices which protect and restore watershed resources and water quality; 2) reduce pollutant loadings into the Bay and its tributaries; and 3) provide for the restoration and preservation of aquatic resources.
- The "Stewardship and Community Engagement" effort promotes the concept of individual environmental stewardship and assists individuals, community-based organizations, businesses, local governments, and schools in efforts directed at achieving the goals and commitments of the Chesapeake Bay 2000 Program.

Extending the Legacy: Planning America's Capital for the 21st Century

In 1997, the Commission released its long-term vision plan to guide development in the National Capital for the next 50 to 100 years. *Extending the Legacy* was developed in response to the projected demands on the Nation's Capital in the 21st century and the threat of overbuilding in the Monumental Core. *Legacy* examines Washington's Core by defining development and economic opportunities and anticipating the need for new memorials, museums, and federal office buildings in all quadrants of the city. It contemplates expanding the reach of public transit and envisions the elimination or realignment of some freeways, bridges, and railroad tracks that fragment the city. It proposes opportunities to preserve and expand the use of Washington's historic waterfront for public enjoyment and explores the possible expansion of parks, plazas, and other urban amenities. The principal themes of the *Legacy* vision are:

- Building upon the historic L'Enfant and McMillan Plans, which are the foundation of modern Washington.

- Unifying the city and the Monumental Core with the U.S. Capitol at the center.
- Using new memorials and other public buildings to enhance local economic development.
- Integrating the Potomac and Anacostia Rivers into the city's public life and protecting the Mall, East and West Potomac Parks, and adjacent historic buildings from future development that would result in a loss of open space and historic resources.
- Developing a comprehensive, flexible, and convenient transportation system that eliminates barriers and improves movement within the city.

Implementing the open space, transportation, and urban design proposals contained in *Extending the Legacy* will rely, to a large extent, on developing creative partnerships among federal, local, and regional governments, private businesses, and community groups. While the proposals focus on improving conditions in and around the Monumental Core, proposed waterfront initiatives could potentially affect the environment. For example, waterfront development along the Anacostia River, replacing existing bridges with improved monumental spans, and removing major transportation infrastructure to create more efficient land use opportunities all include risks to the environment as well as potential long-term rewards. The goals, policies, and implementation proposals contained in this element as well as existing environmental laws apply to both current federal interests and property and the proposals identified in *Legacy*.

FEDERAL ENVIRONMENT ISSUES

This element identifies federal interests, objectives, policies, and implementation strategies relevant to the environment in the National Capital Region. The following sections outline the major features or factors comprising the Region's environment and the current condition of each resource. Twenty to thirty years ago, the environmental problems in the Region were more obvious and the responses more clear. Today, similar challenges are present. Developing effective responses to the Region's environmental issues depends on a better understanding of the complex issues that comprise the local environment, the related nature of the environmental systems at work, and the commitment and resources that are available to address the area's environmental quality. Federal interests and policies are identified for the following items.

Environmental Conditions

- Air Quality
- Noise
- Water Quality
- Water Supply
- Solid Waste Management
- Hazardous Waste Management
- Environmental Justice
- Radiofrequency Radiation and Electromagnetic Fields

Environmentally Sensitive Areas

- Floodplains
- Wetlands
- Aquifer and Recharge Areas
- Soils
- Vegetation
- Wildlife and Aquatic Habitats

Environmental Conditions

Air Quality

The National Capital Region is currently among the largest and most rapidly growing metropolitan areas in the country with a population of approximately 7.4 million people. The area's population is expected to reach 9 million by 2025. Air quality in the Washington Region is improving and the Region appears to meet the minimum federal health standards for five of the six criteria pollutants. However, the region's smog is increasing and recent reports identify the area as one of the worst in the country for ozone. More efficient burning, alternative fuels, and new technologies designed to further reduce air pollution and improve air quality are required. Federal, state, and local air quality controls now in effect, and others that will be

implemented in the future, will assist the Region in improving air quality but federal, state, and local governments should not only strive to meet new standards but quickly introduce new alternative fuel technologies to their vehicular fleets and power generating facilities to lessen pollutant emissions.

The Clean Air Act establishes two types of national air quality standards: primary and secondary. “Primary” standards are designed to establish limits to protect public health, including the health of “sensitive” populations such as persons with respiratory problems, children, and the elderly. “Secondary” air quality standards set limits to protect public welfare, such as damage to animals, crops, vegetation, and buildings. EPA has set standards for six principal and commonly measured pollutants referred to as criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen oxide (NO₂), ozone (O₃), particulate matter (PM), and sulfur dioxide (SO₂). If the levels of these pollutants are higher than what is considered acceptable by the EPA, the area in which the level is too high is designated a “nonattainment” area. Although the Region does not currently meet the National Ambient Air Quality Standard for ozone, significant improvements have been made in this criteria pollutant in the last several years. Data collected from ozone monitors over the years shows a downward trend in the number and level of exceedances of the one-hour ozone standard. The Region plans to meet the one-hour standard by November 2005 when transported pollution and other local controls will be implemented.

As the seat of the national government, the Washington metropolitan area should serve as a model for achieving air quality goals. Furthermore, because of the significant federal presence in the Region, the impact of federal activities on air quality is magnified. Efforts that the federal government could undertake to improve its facilities and operations to enhance air quality would benefit the health and welfare of the area’s population.

Noise

Common sources of noise pollution include aircraft operations, traffic, construction activities, and industrial and appliance-related noise. Noise is an issue because of its effects on the regional population’s general health and welfare and the calculated damage caused by noise pollution, including increased stress, hearing loss, a decline in productivity, higher health care costs, and reduced property values. It is an invisible form of pollution but it nevertheless impacts human health and can contribute to economic decline.

One of the most controversial noise issues in the Region is the unwanted noise resulting from flight operations at commercial airports such as Ronald Reagan National Airport and military airfields. There is also increasing concern about noise from helicopters operating in and around the Mall area. The Mall and nearby locations along the Potomac and Anacostia Rivers, because of their pastoral setting and recreational land use opportunities, are susceptible to noise effects generated by helicopter activity while modern technology has reduced noise levels produced by commercial aircraft operations, but deregulation and the growth in air travel has offset some of those gains.

As ambient noise should increase as a result of new sources of noise, the federal government should do its part to reduce its contribution to this problem. As federal agencies and their

facilities increasingly locate in settings outside of existing built-up areas, their impact on existing noise levels may disproportionately impact suburban or even rural environments and the residents therein. Efforts to ensure a quieter environment through the phasing out of noisier Stage II aircraft are strongly supported and have been effective in reducing noise levels. However, noise will continue to be a concern in these new development areas in the absence of policies and technologies that can further mitigate noise levels.

Water Quality

The impact of growth on the Chesapeake Bay, the Potomac and Anacostia Rivers, and their tributaries and watersheds has been a source of significant public concern for decades. Increased development, population growth, and natural phenomena can have major effects on primary sources of water, and if not carefully controlled, can lesson water quality in the area's streams and waterways. During the 1960s the water quality of the Potomac River had deteriorated to such a point that human contact of any kind with the water was discouraged and fishing in many areas was banned. Similarly, the Anacostia River suffered a serious deterioration in water quality that was evident in plant life within marshland, waterways, and in the overall quality of the Anacostia River. While a variety of well-publicized local, state, and federal government efforts have resulted in improved regional water quality, problems persist.

Coordinated efforts must continue to improve regional water quality. The Metropolitan Washington Council of Governments (COG) is a focal point for coordinating planning efforts in the Region between local, state, and federal agencies. The existing Blue Plains Users' Agreement, the Environmental Protection Agency's Chesapeake Bay 2000 Program and other regional and local efforts continue to contribute to improved water quality in the Region.

Sources contributing to water pollution are varied. Major point source pollution is discharged from the Region's sewage treatment plants and non-point source pollution is produced principally from stormwater and agricultural runoff. In the Washington area, the major water pollution problems are associated with the release of sewage effluent, combined sewer overflows, and nutrient loadings from runoff, rather than industrial discharges as is characteristic among most large metropolitan areas. Urbanization has also contributed to changes to the hydrology of the Region. Existing older stormwater management systems are not always adequate to respond to increased runoff volumes created by a higher concentration of impervious surfaces. The result can be erosion and related changes to the physical, chemical, and biological characteristics of the watershed. The overall result is further pollutant loadings to nearby waters. Investments are needed in new state-of-the-art stormwater management systems that can accommodate the needs of increased development and help preserve vital waterways, streams, and their aquatic habitats. Consequently, the Region's water quality can generally be summarized as follows:

- (a) Dissolved oxygen levels in the Upper Potomac Estuary often drop below standards.
- (b) Few streams in the more urbanized areas consistently meet bacterial standards for safe water contact recreation.

(c) Sedimentation from excessive upstream erosion is reducing the storage capacity of the Occoquan Reservoir although sedimentation has not been as serious in other watersheds in the National Capital Area because of the larger watershed protection provided by public lands that are located adjacent to reservoir shorelines and along tributaries.

(d) Increases in the amount of impervious surfaces have increased the amount of stormwater runoff and freshwater flows to downstream areas.

(e) Future improvements in technology are expected to reduce point source contributions to the pollutant loads in the estuary.

The importance of the Chesapeake Bay Watershed and its rivers and tributaries to the Region's environmental resources and economy cannot be overstated. The protection and restoration of these watersheds is essential to their long-term environmental health and to revitalization in nearby communities. As further emphasis is placed on development opportunities along portions of the area's waterways, the importance placed on the quality of the Region's water will increase. The Chesapeake Bay 2000 Program and partnership acknowledges the important role that the federal government shares with state and regional governments in protecting the Region's waterways and water quality. The federal interests, goals, and policies that are outlined in this element are directed at protecting the Region's waterways for future generations.

Water Supply

The Region has sufficient water supply to accommodate expected demands with surface waters being the primary source. The Potomac River supplies roughly three-fourths or about 79 percent of the area's water supply. The Washington Suburban Sanitary Commission's (WSSC's) Patuxent River Plant and Fairfax County Water Authority's (FCWA's) Occoquan River Plant provide the balance in roughly equal proportions. The Potomac River is subject to periods of extreme low flows, but the Jennings Randolph Reservoir, originally constructed in the 1970s as the Bloomington Dam, helps ensure an adequate supplemental water supply to meet the Region's unrestricted demands. The Little Seneca Reservoir, developed in the 1980s, also handles supplemental water supply needs. Both reservoirs ensure that the Region can meet its unrestricted requirements until at least 2020.

The Washington Aqueduct Division (WAD) and WSSC treat an average of 180 and 165 million gallons of water per day (mgd), respectively. FCWA currently treats about 125 mgd. These three major water supply agencies cooperate on water supply operations in the Potomac Watershed, essentially operating as one entity in sharing water across the Potomac, Patuxent, and Occoquan basins during periods of low flow. This cooperative work is coordinated by the Section for Cooperative Water Supply Operations on the Potomac, which is staffed by the Interstate Commission of the Potomac River Basin (ICPRB).

In the event that a drought were to lead to actual water supply shortages, the existing system would equitably allocate the water that can be withdrawn from the Potomac River and impose a set of rules for implementing restrictions. In 1994, a COG Task Force, comprised of area water suppliers and local governments, developed a regional water supply emergency plan. The issue of supply shortages was discussed and the Task Force concluded that the current regulations and

ordinances under which water restrictions could be implemented are sufficient to ensure an adequate water supply.

Over the years, the Nation's Capital has grown significantly and has experienced increased demands on water resources from new businesses and growing fringe cities with their new residential communities. Water supply is also an issue because of the significant numbers of federal facilities in the Region and the water requirements of these facilities. The federal government, along with local, state, and regional communities, has a responsibility to help ensure adequate water supply for critical federal facility operations, private sector activities, and the needs of the general public, both now and in the future.

Solid Waste Management

Current studies show that 60 percent of solid waste is processed by waste-to-energy facilities. The remaining 40 percent is disposed of in landfills. Virtually all types of wastes (e.g., sludge from municipal wastewater treatment systems and solid wastes from residential and commercial sources) have the potential to cause significant environmental problems. For example, land disposal can result in degradation of surface and ground waters from leachate, a concern given that the Region's waterways, streams, and tributaries are among the area's most vital natural resources and an important component of the regional economy.

More and more, local governments that own landfills and waste-to-energy plants are finding it difficult to attract enough waste material to run these facilities efficiently. In addition, it is difficult to locate solid waste transfer and disposal facilities in the Region, and there appears to be little interest among local governments in opening new disposal sites. Notwithstanding this, regional efforts are underway to improve upon current methods of disposing of sludge from municipal wastewater treatment systems (e.g., Blue Plains), as well as solid wastes from commercial and other sources. Solid waste management practices are increasingly promoting resource conservation and recovery as a means of reducing the impact of solid waste on diminishing landfill capacity.

Federal agencies in the Region produce significant amounts of solid waste and therefore are an important factor in addressing issues such as solid waste transportation and disposal. The federal interest statements and policies contained in this document are intended to encourage federal agencies to safely and efficiently dispose of their solid waste and develop programs that emphasize re-use and recycling, waste reduction, and new waste recovery-related technologies.

Hazardous Waste Management

Federal facilities that generate hazardous waste material (HAZMAT) can pose significant risks and exposure to humans and to the environment. The number of federal facilities in the Region that produce HAZMAT has increased over the last two decades. This has led to an increased awareness of the potential HAZMAT contamination has for disturbing or permanently damaging environmental resources.

The construction of underground storage tanks adjacent to water bodies, or the release of toxic chemicals from damaged or leaking underground storage tanks can contaminate natural aquifers,

estuaries, ground water resources, and eventually the regional water supply. Underground tanks may also produce hazardous leachate if they are not maintained and monitored regularly. This can result in soil contamination, making federal or nearby land unsuitable for federal use, private development, or recreational use by the general public. Another example of a resource that could be affected is wetlands, which are especially sensitive to chemical contamination that can destroy fish and wildlife habitats. Military installations, research centers, laboratories, and other facilities that conduct similar activities oftentimes produce such products.

Generally, there has been a significant improvement in procedures supporting the safe transfer and disposal of HAZMAT. Nevertheless, a discussion of HAZMAT management is particularly important in the NCR because of the proximity of federal facilities that generate hazardous material to residential communities, businesses, and public recreation areas.

Environmental Justice

Environmental Justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences of federal activities. Concerns about the impacts of environmental pollution on particular segments of the population are growing. Minority and/or low-income populations, in particular, are felt to bear a disproportionately high burden from pollution, both economically and in terms of quality of life.

In general, minority populations are disproportionately represented in areas with the greatest number of toxic waste sites or other environmentally impacting activities. Studies centered on low income community residents and/or leaders have found that there are low expectations of the ability of residents to alter federally-supported decisions because, frequently, sufficient resources are not available to challenge agency determinations. Urban brownfield developments (both federal projects and federally assisted initiatives) have important environmental justice implications in terms of both clean-up of previous pollution and plans for future re-use.

Environmental Justice concerns will likely increase as the regional population grows and as pressures increase to locate new uses in areas occupied by lower income residents. The dispersal of federal facilities throughout the Region may lead to more Environmental Justice issues as previously untouched areas are developed for new federal activities. For these and other reasons, federal agencies have a responsibility not only to be good neighbors and do no harm, but also to ensure the good health and welfare of all sectors of society. The issue of Environmental Justice is particularly important in the NCR because of the proximity of federal facilities to residential communities, businesses, and public recreation areas and because of the large number of minorities and low income groups in the National Capital area.

Radiofrequency Radiation and Electromagnetic Fields

Widespread cellular phone usage has resulted in the proliferation of new antennas and antenna towers in the Nation's Capital. This relatively recent phenomenon, wireless communication, is

expected to continue growing at a significant rate. In 1996, 88 million Americans were using some form of wireless communication. Today, it is believed that over 150 million Americans are using wireless communication devices. As the population in the National Capital Region grows, the demand for wireless services and new locations for antenna sites is expected to increase. Although much of the antenna construction is coming from private carriers entering the wireless communications market, federal agencies are also reliant on advanced communications technologies that require locating various kinds of antennas (e.g., dish, whip) on federal property and particularly on the rooftops of buildings.

During the 1980s and early 1990s, NCPC became increasingly concerned about the possible adverse visual effects of antennas. In January 1988, the Commission adopted its first set of Antenna Submission Requirements aimed mainly at addressing the aesthetic impacts of antennas on the scenic and visual qualities of the NCR. In 1995, NCPC established an Antenna Task Force to explore issues related primarily to the visual effects of antennas. The Task Force's effort also addressed the subject of public safety concerns related to radiofrequency (RF) emissions produced by transmitting antennas and wireless communications devices. On February 8, 1996, the Telecommunications Act was signed into law. The main objectives of the Act are to support economic development, the development of new technologies, and job creation associated with the growing wireless communications industry. Six months later, on August 1, 1996, due to the requirements of the Act, the Federal Communication Commission (FCC) developed new rules and regulations regarding the environmental effects of RF emissions. FCC also released new emission standards.

In 1997, the National Research Council (NRC) issued its findings from a congressionally mandated study on the possible harmful impacts of electromagnetic fields (EMF) on humans. The NRC found "no conclusive and consistent evidence" linking ordinary exposure to EMFs in the home to cancer, adverse neurobiological effects, or reproductive and child-related effects. Nevertheless, it is important to note that research in this area continues. The American Medical Association's (AMA) Council on Scientific Affairs has recommended a policy of "prudent avoidance," suggesting that manufacturers and employers begin planning to reduce the exposure of workers and the public to EMF radiation. NCPC's Antenna Task Force, in its final report and recommendations, supported the AMA's position that suggests that caution is advisable in dealing with RF radiation from antennas, cell phones, and other appliances that emit RF fields. The Task Force concluded that it did not have the technical expertise to evaluate the public safety effects and instead would defer to FCC and its guidelines in establishing health effects and to the applicant's certification that proposals are in compliance with FCC guidelines.

Including this subject in the Comprehensive Plan's Federal Environment Element is intended to: (1) ensure adequate monitoring of all antenna(s) installations in the NCR; (2) address the public's concerns for the adequate review of such installations on federal property; (3) provide guidance to federal agencies as they consider antenna proposals; (4) develop policies that are consistent with NCPC's "Guidelines and Submission Requirements for Antennas on Federal Property"; and (5) support the spirit and intent of the Telecommunications Act of 1996.

Environmentally Sensitive Areas

In this Region many of our natural resources and areas have been lost or severely altered as a result of development. In the past, federal agencies sometimes failed to recognize the natural and beneficial values served by natural resources during federal planning and development processes. The cumulative impact of urban development upon these natural resources continues to threaten their natural functions as well as their amenities and benefits to society. Environmental and public benefits from these resources can only be ensured if they are sufficiently protected from incompatible development. Protection and enhancement of the natural resources of the Chesapeake Bay and other Environmentally Sensitive Areas in the National Capital Region requires conservation and a balanced management of the Region's ecosystem including its vegetation, floodplains, wetlands, aquifers and recharge areas, soils, and wildlife habitats.

Today, due mainly to stronger environmental regulations, adverse impacts on Environmentally Sensitive Areas are better controlled. Nevertheless, these areas continue to be threatened by urban and suburban expansion. For example, the Chesapeake Bay is North America's largest and most ecologically diverse estuary. The Bay and its tributaries not only serve the regional economy and provide the area with a unique scenic resource but are home to over 3,600 species of plants, fish, and animals. Over several decades of growth and development in the Region, the tributaries, natural lands, and ecosystems have been damaged. The Chesapeake Bay 2000 Program commits local jurisdictions and the federal government to respond to problems facing the sensitive ecosystems of the Bay and its adjacent lands and watersheds by achieving the goals set forth in the Chesapeake Bay agreement.

Another example of a threatened and vital natural resource are trees in the NCR and, particularly, trees in the District of Columbia which have been lost and not replaced over the years. Surrounding jurisdictions and the District recognize the adverse effects that development in the Region has had on trees, resulting in harm to the environment. Area governments are moving to address the issue through "Smart Growth and Sustainability" opportunities, including tree replacement initiatives. Recent reports have documented the loss of nearly 4,000 trees annually in the District. The loss of street trees can have negative effects on air quality and visibility. This has damaged the natural green setting that has historically provided Washington with a reputation of being among the greenest of the world's capitals.

In this Region, large amounts of federal land, by virtue of its location, is in designated floodplain areas. As federal agencies and facilities conduct their activities and fulfill their mission goals and objectives, some development within the floodplain and other sensitive areas is unavoidable. Consequently, the "Environmentally Sensitive Areas" section is intended to provide guidance to federal agencies so that, as they develop their plans and programs, they: (1) protect and conserve endangered and threatened species; (2) avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains; (3) avoid direct and indirect support of floodplain development wherever there is a practicable alternative; (4) minimize the destruction, loss or degradation of wetlands; and (5) preserve and enhance the natural and beneficial values of wetlands.

GOALS FOR THE FEDERAL ENVIRONMENT

The following goals, policies, and implementation measures are intended to provide guidance to federal agencies to help them achieve national and regional environmental goals. Consequently, it is the goal of the federal government to:

ENHANCE THE QUALITY OF THE ENVIRONMENT BY:

- (a) Achieving and maintaining federal air quality standards in the Region to minimize adverse effects of air pollution on human health and the environment.
- (b) Complying with Executive Orders that call for reducing harmful emissions and improving air quality by supporting new technologies and methods that produce alternative fuel sources, improve energy efficiency, and encourage greater use of public transportation.
- (c) Ensuring that proposed land uses are compatible with noise exposure limits to avoid human stress and health damages resulting from exposure to hazardous and disruptive noise levels.
- (d) Achieving and maintaining a high level of water quality and improving the water-related recreational potential of rivers, streams, lakes, and other bodies of water.
- (e) Participating in the Chesapeake Bay 2000 Program's "Water Quality Protection and Restoration" initiative as a way of maintaining a high level of water quality and protecting the Bay's aquatic resources.
- (f) Enhancing the aesthetic and ecologically beneficial effects of the Region's rivers, streams, estuaries, and lakes, and protecting and preserving aquatic and terrestrial resources.
- (g) Controlling stormwater runoff and point and non-point sources of pollutants, and ensuring adequate wastewater treatment facilities in the Region.
- (h) Ensuring an adequate supply of high quality, potable water.
- (i) Conserving and reducing consumption of the water supply.
- (j) Requiring adequate and efficient systems for the collection and disposal of solid waste generated by federal agencies, and maximizing the recovery of resources and energy from solid wastes.
- (k) Minimizing the adverse effects associated with the handling, transport, storage, and disposal of HAZMAT substances.
- (l) Encouraging the wise use and location of underground storage tanks which may contain potential HAZMAT and monitoring of storage tanks to avoid spills or leaks that may adversely affect humans and the environment.

- (m) Remediating certain adverse environmental conditions resulting from prior federal ownership or control.
- (n) Encouraging the wise use, conservation, and development of land and water resources, and protecting and maintaining the natural and cultural benefits of floodplain and wetland resources.
- (o) Supporting and participating in the Chesapeake Bay 2000 Program's "Sound Land Use" initiative aimed at promoting land use practices that protect and restore watershed resources.
- (p) Protecting and preserving the recharge areas of high yield aquifers and supporting the use of aquifers as a complementary water supply resource.
- (q) Recognizing the relationship between land development and natural soil characteristics and limitations and minimizing the damaging effects of erosion and sedimentation by promoting environmentally sensitive design in areas of new or infill development.
- (r) Protecting and enhancing the visual, recreational, and environmental quality amenities and functions afforded by woodland, street trees, and vegetation areas.
- (s) Preserving, protecting, and enhancing wildlife and aquatic habitats as an integral component of the ecological system.
- (t) Supporting the goals and objectives of the Chesapeake Bay 2000 Program's "Vital Habitat Protection and Restoration" initiative aimed at preserving and restoring natural habitats and areas vital to the survival of the Bay's resources, including its tributaries.
- (u) Ensuring compliance with federal electromagnetic and radio frequency emissions standards to minimize potential adverse effects on public safety and the environment.
- (v) Ensuring that minority and low income communities do not suffer from and are not disproportionately exposed to adverse environmental conditions.
- (w) Encouraging the use and development of state-of-the-art technologies, such as GIS (Geographic Information Systems) to develop, manage, and share environmental data among local and regional jurisdictions to improve the analysis and assessment of environmental conditions in the National Capital Region.

POLICIES FOR ENVIRONMENTAL CONDITIONS

Air Quality

For the purpose of this element, the definition of “air quality” is:

the quality of breathable air and visibility as measured by six criteria pollutants for which EPA has established standards

Federal Interest

It is in the federal interest to:

1. Minimize adverse effects of air pollution on human health and man-made and natural environments in the Region.
2. Achieve federal air quality standards in the Region.
3. Ensure that federal agencies provide leadership toward improving air quality by applying the procedures set forth in the Clean Air Act for federal facilities and federal employees.
4. Enhance the visual enjoyment and aesthetic appeal of natural and cultural settings and scenic landscape in the National Capital Region through the improvement of air quality.
5. Provide federal leadership toward improving air quality by ensuring that federal agencies:
 - a. Exercise leadership in the use of alternative fuels and alternative fuel vehicles.
 - b. Promote the development and use of bioenergy technologies as sources of affordable electricity fuel.
 - c. Reduce various emissions, including fine particulate emissions, that contribute to air pollution by developing more energy efficient building designs, construction methods, and operations.
 - d. Contribute to reducing traffic and air pollution by using available resources that encourage greater use of mass transit, carpools, and vanpools.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Mobile source concentrations of air pollutants should be reduced by:

- a. Encouraging state and local governments as well as private employers to improve regional public transportation systems and to develop employee incentive programs that help reduce dependence on automobiles throughout the Region.
 - b. Providing federally funded programs aimed at reducing dependence on single occupant vehicles and by encouraging the greater use of and access to public mass transit, carpools, vanpools, and bicycles.
 - c. Not subsidizing parking for federal and non-federal employees, locating federal facilities where high quality public transit alternatives already exist, and working with local jurisdictions to provide incentives/opportunities for adequate vanpool parking facilities in the Region.
 - d. Instituting variations in the traditional workweek, for federal and non-federal employees, such as telecommuting/teleworking, alternative work schedules, and worksite arrangements.
 - e. Controlling vehicle exhaust emissions by encouraging the use of alternative fuels (e.g., hybrid, fuel cell, and Compressed Natural Gas) and, as an interim solution, only “clean” diesel fuels; and encouraging programs that ensure that vehicles meet exhaust emission standards established by the United States Environmental Protection Agency.
 - f. Encouraging that all aircraft,-non-combat military and civilian, meet or exceed aircraft emission standards established by the U.S. Environmental Protection Agency.
2. Stationary source concentrations of air pollutants should be reduced by:
- a. Using and/or demonstrating best available existing and new technology, if feasible.
 - b. Utilizing non-polluting sources of energy (e.g., solar energy at federal facilities and at other public and private developments), when practicable.
 - c. Utilizing modern mechanical and air replenishment building systems and technologies to control and reduce air pollutants produced by building operations.
 - d. Encouraging the development and use of other alternative energy sources to reduce the reliance on fossil fuels at federal facilities and public and private developments, (e.g., non- fossil fuel generated electric and solar power).
 - e. Using building materials, construction methods, and building orientation that are sustainable on both a regional and global basis and do not damage the Region's environment.
 - f. Using low volatile organic compound (e.g., gasoline) solvents and paints to reduce ozone.

Noise

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of “noise” is:

various levels of unwanted man-made sound that can adversely impact public health and welfare, animal habitats, and sensitive land uses

Federal Interest

It is in the federal interest to:

1. Eliminate, to the extent possible, human stress and health damage resulting from hazardous and disruptive noise levels.
2. Protect noise-sensitive land uses, activities, facilities, natural resources, and wildlife habitats from adverse sound levels.
3. Encourage compatibility between noise exposure limits and land use planning.
4. Encourage federal agencies to continue to institute the policies and procedures set forth in the Noise Control Act of 1972.
5. Ensure that federal facilities, where applicable, are in compliance with the noise responsibilities, standards, and strategies established for the federal community by the Environmental Protection Agency, Federal Aviation Administration, Housing and Urban Development, Federal Highway Administration, Occupational Health and Safety Administration, and the Federal Railroad Administration.
6. Ensure that airport noise levels are reduced and aircraft are in compliance with FAA noise emission limits set forth in the Airport Noise and Capacity Act of 1990.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Federal agencies with missions that involve excessive noise producing activities should not be located in proximity to sensitive natural resources and features so as not to disrupt wildlife habitats and natural biological systems.
2. Parks and other natural, historic, and cultural resources, which are places to escape from increasing urbanization, should be protected from excessive noise.
3. All construction activities should comply with local noise ordinances. Low noise emission products and equipment should be used in the construction and maintenance of developments in the Region.

4. Impacts on adjacent land uses and manner of operation should be one of the factors considered when establishing hours of construction and when selecting construction equipment.
5. Highway development design should be sensitive to existing and proposed adjacent land uses and should employ the use of barrier attenuations, where necessary.
6. All surface transportation vehicles should meet the national motor carrier noise regulations developed by the Environmental Protection Agency to govern sound levels emitted from motor carriers engaged in interstate commerce.
7. The safest and lowest possible interior noise levels should be maintained in all federal and other public and private buildings.
8. Aircraft traffic flight procedures should be established for fixed-wing aircraft and helicopters to minimize adverse noise levels on noise-sensitive land uses in the Region, such as memorials and recreational, hospital, residential communities, and educational facilities.
9. Various levels of intensity of noise generated by aircraft have been identified by the Federal Aviation Administration, the Environmental Protection Agency, the Department of Housing and Urban Development, and other federal agencies. In order to protect public health and welfare, as well as to provide for environmental enhancement, land uses and development activities that are incompatible with various aircraft noise levels should be discouraged.

Water Quality

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of “water quality” is:

the condition of our rivers, streams, lakes, and estuaries as established by federal or state governments or the government of the District of Columbia, for activities such as drinking, swimming, or fishing

Federal Interest

It is in the federal interest to:

1. Achieve and maintain a high level of water quality in the Region.
2. Ensure that federal agencies provide leadership in improving water quality by applying the procedures set forth in the Clean Water Act of 1977 for their facilities and activities.
3. Control stormwater runoff and point and non-point sources of pollutants by using state-of-the-art stormwater prevention and control technologies at federal facilities.
4. Participate in the Chesapeake Bay 2000 Program’s goal of improving water quality by reducing nutrient loadings into the Bay by 40 percent for all controllable (point and non-point)

sources.

5. Reduce the effects of federal activities and development on area waste water treatment facilities' discharges by developing programs to offset discharge load increases.
6. Reduce the release of toxic chemicals resulting from federal activities in the Region's waterways in support of the Chesapeake Bay 2000 Program.
7. Improve the water-related recreational potential of the Region's rivers and streams.
8. Enhance the beneficial aesthetic and ecological effects of the Region's rivers, streams, and estuaries.
9. Protect and preserve aquatic and terrestrial resources and continue to institute the policies and procedures set forth in the Fish and Wildlife Coordination Act.
10. Ensure that there are adequate wastewater treatment facilities in the Region that are properly maintained and that are upgraded for nutrient removal to reduce the impacts of eutrophication caused by excessive nutrient discharges.
11. Utilize Best Management Practices for agricultural activities to minimize impacts on water quality and aquatic resources.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Vegetated buffers should be provided and maintained adjacent to bodies of water, where feasible and appropriate, to reduce sedimentation and delivery of pollutants.
2. Thermal pollution of waterways should be discouraged. Providing vegetated buffers aid in protecting fish and other aquatic life.
3. Water supply and sewage treatment systems in the Region should be upgraded, repaired, or replaced, where necessary, in accordance with the standards and guidance of the EPA, to reduce the delivery of nutrients to waterbodies. This should include separating storm and sanitary sewers for new construction and through upgrades, where practicable and warranted, where such sewers are now combined.
4. Wastewater reduction through conservation and reuse should be required in all new federal buildings and major federal renovation projects.
5. During construction, the use of grading, filling, soil removal and replacement methods that minimize erosion and sedimentation should be required. Tree cutting and other vegetation removal should also be kept to a minimum to reduce soil disturbance and erosion and sedimentation. When the removal of trees and vegetation is absolutely necessary they should be replaced to achieve a goal of no net loss of trees or vegetation due to construction.

6. Pervious surfaces should be used where practical to reduce stormwater run-off and impacts on off-site water quality. Federal agencies should assist in reducing vehicular activity as set forth in Executive Order 13150 (*Federal Work Force Transportation*). Achieving the goals and objectives of this Order will help decrease vehicular-related oil and other potentially water polluting agents on roads.

7. During the design and development process, federal agencies are encouraged to include innovative and environmentally friendly practices to reduce stormwater runoff such as using green roofs, installing rain gardens (especially in surface parking areas), and where practicable, using permeable rather than impermeable surface walkways.

8. The use of registered pesticides, herbicides, fertilizers, chemicals, and oil and other groundwater threats should be identified and closely controlled and research and investigation into groundwater supplies and flows should be conducted to prevent pollution of adjacent waterways. Extreme caution should be taken in the disposal of animal waste to eliminate entry into waterways of unsuspected hazardous substances.

9. Spoil, sludge, and other waste materials should be disposed of in a manner that does not contaminate ground or surface water resources.

Water Supply

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of “water supply” is:

drinking water for public use from surface or groundwater sources

Federal Interest

It is in the federal interest to:

1. Protect the Region’s water supply from unsafe contaminating agents and other forms of pollution.
2. Ensure an adequate supply and efficient distribution system of high quality, potable water.
3. Conserve and reduce consumption of the Region's water supply.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Floodplain and wetland development or modification should be discouraged so as to retain their beneficial value to groundwater and aquifer recharge systems.
2. The use of impervious surface materials (e.g., asphalt pavement or concrete) that prohibit the

recharging of underground aquifers and encourage higher velocity stormwater run-off should be minimized, where practicable.

3. Surface material for parking areas and other large open areas should maximize groundwater recharge and reduce stormwater run-off.
4. The use of stormwater drainage swales and collection basins that increase recharge to groundwater is encouraged.
5. Water conservation and the use of new water-saving technologies that conserve and monitor water consumption are encouraged in all federal facilities.
6. Sewage treatment plants' outfalls should be located below water supply intakes, wherever possible, to reduce the likelihood of water supply contamination.
7. Year-round water conservation programs should be established for federal and non-federal agencies to assist in maintaining adequate water supplies in the Region.

Solid Waste Management

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of "solid waste management" is:

The safe, efficient, and sustainable removal, transport, and disposal of what is commonly referred to as municipal solid waste or trash and garbage waste. This includes the reduction of solid waste volumes and the recovery and recycling of items from the waste stream.

Federal Interest

It is in the federal interest to:

1. Maintain adequate and efficient systems for the collection and disposal of solid waste generated by federal agencies.
2. Maximize the recovery of resources and energy from solid wastes prior to ultimate disposal.
3. Avoid adverse effects associated with the disposal of toxic substances and hazardous wastes.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Waste reduction measures to extend the life of waste disposal systems and sanitary landfills in the Region should be vigorously pursued.
2. Resources from solid wastes generated at federal facilities should be recovered prior to ultimate disposal; and all usable wastes should be recycled.

3. Procurement policies should encourage the purchase and use of products containing recycled-content as much as possible.
4. All hazardous wastes and toxic substances (those already so designated as well as those suspected) should always be disposed of in the safest manner in accordance with national, state, and local regulations.
5. Spoil materials generated during construction of federal and non-federal facilities should be re-used, where possible, on site.
6. In the National Capital Region, federal agencies should handle and dispose of solid waste in accordance with State and local jurisdiction's solid waste management program goals and regulations, where possible.
7. Transportation and disposal of solid waste outside of the National Capital Region should be in accordance with State and local regulations, where possible.
8. Solid waste disposal and storage should be done in a sanitary manner to discourage litter, insects, and rodents.
9. Solid waste as an energy supply source (e.g., macerated paper) should be utilized at federal facilities and elsewhere whenever possible.

Hazardous Waste Management

For the purpose of federal planning policies relating to the environment in the National Capital Region, the definition of "hazardous waste" is:

any solid, liquid or air-borne waste material that has been listed as "hazardous waste" by EPA or which exhibits traits that have been found to have a harmful impact on human health and the natural environment if not handled properly

Federal Interest

It is in the federal interest to:

1. Avoid adverse effects on the environment and public health associated with the handling, transport, and disposal of hazardous materials (HAZMAT) and toxic substances.
2. Promote the use of safer chemicals, processes, and technologies to protect public health and the environment from increased risks.
3. Promote pollution prevention and the public's right to know about potential HAZMAT risks.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Federal agencies that plan to construct and operate facilities that produce hazardous waste and toxic materials should avoid siting these facilities in populated or environmentally sensitive areas.
2. If no alternative sites exist, the design and construction of a HAZMAT-producing facility in a sensitive area must include consideration of:
 - a. The physical characteristics of the site.
 - b. Design procedures to protect the quality of surrounding air, soil, and groundwaters.
 - c. The operating conditions and adequate technology to handle, transport, treat, or dispose of waste.
3. Construction of HAZMAT-producing facilities in floodplains or wetlands should be avoided.
4. If no alternative site is available and construction is required within the 100-year floodplain:
 - a. Environmental Protection Agency (EPA) regulations that require HAZMAT-related structures be built above the 100-year flood level should be followed.
 - b. According to EPA regulations, facilities should be built to withstand flooding.
5. Construction of HAZMAT facilities on unstable ground at risk of landslides should be avoided to prevent accidental release of hazardous materials.
6. HAZMAT-producing facilities should not be located on high-value groundwater recharge areas or where underground conditions are complex and not well understood.
7. Federal agencies should monitor and conduct periodic testing to detect and avoid leaks or spills from structures that hold HAZMAT (e.g., underground storage tanks, pipes and retention areas).
8. The selection of sites for facilities that burn HAZMAT should be based on:
 - a. The projected effect of atmospheric conditions and land features on wind patterns and the dispersal of emissions.
 - b. Requirements for special engineering and facility design to ensure acceptable dispersion of air contaminants and compliance with air quality requirements.

- c. An assessment of the impact of HAZMAT activities on surrounding land uses.

Environmental Justice

For the purpose of federal planning policies relating to the environment in the National Capital Region, the definition of “Environmental Justice” is:

The fair treatment and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Environmental Justice seeks to ensure that no group of people, including a racial, ethnic, or socioeconomic group, bears a disproportionate share of negative environmental consequences resulting from federal projects or activities.

Federal Interest

It is in the federal interest to:

1. Ensure that federal agencies in the NCR implement the provisions contained in Executive Order 12898, “Federal Actions to Address Environmental Justice In Minority and Low Income Populations.”
2. Ensure that federal agencies are knowledgeable and sensitive to the impacts of their actions on minority and low income populations.
3. Adopt strategies to address environmental justice concerns within the context of federal agency operations.
4. Focus the attention of federal agencies on human health and environmental conditions in minority and low-income communities.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Federal agencies should make achieving environmental justice a part of their missions by identifying and addressing, as appropriate, any disproportionately high and adverse health or environmental effects on minority and low-income populations resulting from agencies’ programs, policies, and activities.
2. Federal agencies should analyze and consider, as prescribed by the NEPA review process, the demographics of a potentially affected area to determine whether such communities are characterized by low-income levels or high minority composition.
3. Federal agencies should consult with affected communities to identify any potential effects of their actions on residents’ health and environmental quality.

4. Federal agencies should give consideration to the indirect, multiple, and cumulative effects of their actions as well as the cultural, social, historical, and economic characteristics of an affected community to identify the full magnitude of their actions on affected community.
5. Federal agencies should establish effective public outreach programs so that the affected community can participate in a meaningful way in decisions affecting its future. Outreach strategies should be designed to overcome linguistic, cultural, institutional, geographic, and other barriers.

Radiofrequency Radiation and Electromagnetic Fields

For the purpose of federal planning policies relating to the environment in the National Capital Region, the definition of “radiofrequency radiation and electromagnetic frequency fields” is:

the field of radiofrequency radiation (RF) from transmitting antennae or electromagnetic energy fields (EMF) emitted from various types of antenna transmitters, power lines or other generated energy sources, through a volume of space (fields) and at varying degrees of power density

Federal Interest

It is in the federal interest to:

1. Minimize the exposure of federal employees and the public to RF fields from transmitting antennas and cellular communications devices and EMFs emitted from power lines.
2. Protect the health and welfare of federal employees and the public by ensuring that transmitting antennas are installed and operate in accordance with applicable Federal Communications Commission (FCC) standards.
3. Conform with the intent of the National Environmental Policy Act of 1969 in evaluating major federal actions involving RF and EMF emissions.
4. Minimize the exposure of federal employees and the public to RF and EMF fields by implementing a general policy of “prudent avoidance” by federal agencies, where applicable.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Precautions should be taken in locating and operating transmitting antennas because of the potential for adverse RF field emission effects.
2. To minimize possible RF exposure from single pole antennas and the potential combined (cumulative) effects of placing multiple antennas at one location (collocation), and to better control and monitor emissions, federal agencies are encouraged to reduce the number of antennas in the Region.

3. To reduce the number of antennas in the Region, federal agencies should evaluate the possibilities for joint-use of antennas (cooperative antenna technology) and, where no other alternative exists, collocating antennas at one location, provided they are in areas where any potential adverse effects can be mitigated and the cumulative RF emissions do not exceed FCC standards.
4. Where there are multiple transmitters at one location, federal agencies should evaluate the overall cumulative effects of the transmitters to ensure that the combined RF energy emissions continue to meet FCC guidelines.
5. Where occupational/controlled exposure may be present, persons who may be exposed should be made fully aware of the risks. Federal agencies should minimize or eliminate areas where exposure may be present, to the extent possible, and place warning signs and labels that provide:
 - a. Information and instructions which establish awareness of the risk of potential exposure in known high exposure locations.
 - b. FCC- and OSHA-approved procedures for working in the vicinity of RF sources to prevent exposures in excess of the maximum allowable exposure identified in the FCC guidelines.
6. Where there are multiple transmitters at a site, federal agencies should evaluate the overall cumulative effects of all transmitters.
7. With respect to rooftop environments and multiple on-site transmitters, adequate interior building attenuation measures should be incorporated to reduce RF field penetration into the interior habitable areas of the building which the antennas are located and into the interior habitable areas of nearby buildings on which the antennas are located.
8. Federal agencies are encouraged to: seek information on RF radiation-related health and safety issues; monitor changes in standards and guidelines for the installation of antennas; keep abreast of advances in technology, such as fiber optics, the availability of cooperative antenna technologies and teleports; and implement the most appropriate application which would reduce or minimize public exposure to RF fields.
9. Federal agencies are encouraged to implement a policy of “prudent avoidance” in locating new antennas on property they control. This suggests that federal agencies reduce the exposure of workers and the public to RF fields where they may be prevalent, including those from power lines, antennas, equipment, and other recognized sources of RF and EMF emissions.
10. The telecommunications industry and federal agencies are encouraged by the Food and Drug Administration to:
 - a. Continue to support needed research into possible biological effects of the type of RF field emitted by mobile phones.

- b. Design mobile phones in a way that minimizes any RF field exposure to the user and nearby pedestrians.
 - c. Provide mobile phone users with the best possible information on what is known about the possible effects of mobile phone use on human health.
11. Through shielding or other mitigating design to the extent possible, federal agencies should minimize the exposure of federal employees and the public to EMFs from strong magnetic fields generated from electrically powered transportation in the Region.

POLICIES FOR ENVIRONMENTALLY SENSITIVE AREAS

The term environmentally sensitive area means “features and resources that, because of their unique physical characteristics may be susceptible to damage by human actions and whose protection and maintenance are vital to the well-being of man and the overall quality of the environment.” These areas should be given special attention in planning and development activities.

The following apply to the environmentally sensitive areas listed:

Floodplains

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of “floodplains” is:

usually lowlands along rivers, streams, lakes, and oceans that are subject to periodic flooding; floodplains can occur where annual water flow is low or nonexistent

Federal Interest

It is in the federal interest to:

1. Avoid the long- and short-term adverse effects associated with the occupancy and modification of floodplains in the Region.
2. Encourage the wise use, conservation, and development of the Region's interrelated land and water resources.
3. Protect and maintain natural and cultural floodplain values, resources, and benefits.
4. Reduce existing and future flood loss potential.
5. Support the preservation and sound management of floodplains in the Region.
6. Ensure that federal agencies institute the procedures set forth in the Coastal Zone Management Act to protect, preserve, and restore the Coastal Zone and its amenities in the National Capital Region; and support the Coastal Zone protection efforts of the states of Maryland and Virginia.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Sensitive facilities and activities, such as a federal building that stores permanent records, should be prohibited from locating in a floodplain.

2. Proposed development and new uses should be carefully regulated to ensure the harmonious use of floodplains by minimizing flood hazards and preserving natural values.
3. Appropriate modification of existing developments to correct flood hazards and to restore floodplain values should be encouraged. If necessary modifications cannot be accomplished, the buildings should be removed to allow restoration of the natural values of a floodplain.
4. Modification and/or rehabilitation of existing developments in the floodplain should be discouraged if they are unrelated to correcting flood hazards or restoring floodplain values.
5. If construction in a floodplain is necessary:
 - a. The site should be returned, as closely as possible, to its natural contours.
 - b. Floodplain fill should be minimized.
 - c. Grading requirements should be minimized.
 - d. Free natural drainage should be preserved.
 - e. The proposed development should be floodproofed.
7. Floodplain areas may be used for water-dependent purposes, such as recreation, commemorative works, scientific study, and education instruction, where appropriate.
8. Facilities and activities that could contain potential pathogenic and toxic substances (e.g., sanitary land fills, septic tanks, and heavy metal waste) should be prohibited from locating in the floodplain area.

Wetlands

For the purpose of federal planning policies relating to the environment in the National Capital Region, the definition of “wetlands” is:

Waterlogged areas of land where the water table is at, near, or above the land surface for an extended period of time. Wetlands can be swamps, marshes, bayous, and bogs and can serve as habitats for a variety of fish and wildlife. Wetlands are among the most highly sensitive ecosystems. Normally, hydric soils, hydrophytic vegetation, and wetland hydrology must exist for an area to be considered a wetland.

Federal Interest

It is in the federal interest to:

1. Avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

2. Preserve, restore, and enhance the natural and beneficial values and resources of wetlands.
3. Encourage and support sound wetlands management and preservation strategies that result in “no net loss” of wetlands.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Wetlands supporting a habitat of endangered species should not be developed or modified. Land uses adjacent to wetlands should be compatible with the preservation of the natural resources supported by the wetlands.
2. Federal agencies should coordinate their wetland activities with state and local government programs in order to comply with state water quality standards and the Clean Water Act.
3. Destruction of or damaging modifications to coastal wetlands should be avoided to the maximum extent possible.
4. Destruction of or damaging modifications to wetlands that contain unique landscape characteristics; have cultural significance; contain historic sites; are natural wildlife habitats; or that have existing or potential scientific, research, or educational value, existing or potential, should be prohibited.
5. When project construction in a wetland is deemed to be the only practicable alternative, project site construction should utilize the best engineering practices available to minimize adverse impacts.

Aquifers and Recharge Areas

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of an “aquifer” is:

an underground bed or stratum of earth, gravel, or porous stone that contains water and is often used as a water supply

The definition of “recharge areas” is:

an area of land through which water percolates and aids in the replenishment of the water supply in an aquifer

Federal Interest

It is in the federal interest to:

1. Support the use of aquifers as a complementary water supply resource.

2. Protect and preserve the recharge areas of high yield aquifers.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Due to their potential for contaminating groundwater in the event of a malfunction, septic tanks, sewer pipes, landfills, petroleum and other liquid storage or hazardous waste areas on federal properties should be carefully located and assiduously maintained in identified aquifer areas.
2. The overuse of elements such as salts and dissolved chemicals should be carefully controlled to prevent surface and groundwater contamination.
3. The use of groundwater for drinking water or irrigation purposes as a supplement to existing surface water resources should be encouraged, unless the pumpage of the groundwater would cause significant land subsidence impacts.
4. A proper land balance between development and open space on recharge areas should be maintained so that at least the present water yield of the aquifer will be maintained.

Soils

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of “soils” is:

a component of the earth's surface, capable of supporting plants, that contains properties resulting from climate effects and organic and mineral matter originating from a parent material, and that consists of various particle sizes with distinct physical and chemical characteristics

Federal Interest

It is in the federal interest to:

1. Recognize the relationship between land development and natural soil characteristics and limitations.
2. Minimize damaging effects of erosion and sedimentation.
3. Promote development that ensures the protection and continued usefulness of soils as a vital natural resource.
4. Protect and recognize the importance of soil as a vital supporting element to vegetation, agricultural activities, and forestry.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Development on slopes with a gradient of 15 percent and above should be discouraged on severely eroded soils; and excessive slopes (25 percent and above) should remain undeveloped.
2. Development should be discouraged in areas of identified high erosion potential.
3. Where development is required to occur on steeply sloping land, federal agencies should implement environmentally sensitive design in areas of new or infill development, such as introducing significant vegetation and appropriate landscaping to lessen the potential for erosion or landslides.
4. To the extent possible, only land uses such as recreation and open space should be developed on soils that are highly unstable, such as Christiana and associated soils, particularly when such soils are associated with steeply sloping topography.
5. All new building construction should avoid, where possible, locating on fault lines.
6. Building locations and design should be sensitive to the natural direction of groundwater flows so as not to significantly impede the natural flow of groundwater.
7. To the extent possible, development should be avoided in areas where useful mineral resources, such as diabase clay and shale, are located.
8. Agencies should effect erosion and sediment controls in a manner consistent with State and local requirements.

Vegetation

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of “vegetation” is:

the component of the physical and natural environment involving plant species that occur naturally, or are established by man, in a particular location, region, ecosystem, and/or habitat

Federal Interest

It is in the federal interest to:

1. Protect and enhance the visual and recreational amenities afforded by wooded areas.
2. Protect the environmental quality functions afforded by woodlands, street trees, and

vegetation areas, such as soil stability, temperature moderation, erosion control, and the protection of wildlife habitats.

3. Encourage development that incorporates existing vegetation; extensive use of additional indigenous landscaping and plant species; and preserves connectivity of woodlands to help maintain wildlife habitats.

4. Assist local area governments in replacing lost trees and increasing the amount of native trees in the Region, particularly street trees in urban areas such as the District of Columbia.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Trees and vegetation shall be incorporated into all federal and non-federal developments to moderate temperatures, minimize energy consumption, and mitigate stormwater runoff.

2. The use and replacement of street trees, particularly native species where they have been removed due to development, is strongly encouraged to enhance the visual and aesthetic features as well as add to the environmental quality of the National Capital.

3. Woodland and vegetation areas should not be removed from steep slopes and areas with high erosion potential.

4. To aid in erosion and sedimentation control, vegetation adjacent to waterways should be maintained.

5. Existing vegetation, especially large stands of trees, should be preserved in all federal developments to the greatest extent possible. Federal agencies should use native plant species to increase vegetation of particularly steep slopes on federal land.

6. High density woodland and vegetation areas should be limited to passive recreational uses to preserve their natural amenities to the greatest extent possible.

7. Landscaping plans should generously incorporate generous amounts of native and indigenous species and other features, besides trees and vegetation, to reduce solar radiation or heat sinks (e.g., large areas of asphalt).

8. Federal agencies are encouraged to promote awareness of the benefits of incorporating native plant materials in their projects and developing methods for sharing information on landscaping advances with interested non-federal parties.

Wildlife and Aquatic Habitats

For the purpose of federal planning policies related to the environment in the National Capital Region, the definition of “wildlife and aquatic habitats” is:

natural areas of land and/or water that provide natural support systems to sustain zones for plants, animals, and aquatic organisms

Federal Interest

It is in the federal interest to:

1. Preserve, protect, and enhance wildlife and aquatic habitats as an integral component of the ecological system.
2. Encourage federal agencies to institute the policies and procedures set forth in the Fish and Wildlife Coordination Act of 1964 to further protect fish and wildlife where federal actions impact natural streams or other bodies of water.

Federal Policies

Federal actions in the Region should conform to the following policies:

1. Identified migratory areas should not be developed or altered significantly from their natural conditions.
2. Intensive land development should not be located adjacent to a wildlife habitat, and adjacent land uses should be compatible with the habitat.
3. Federal agencies should promote construction practices and facility design that minimize adverse effects on wildlife habitats.
4. Critical wildlife habitats and other sensitive natural areas should be protected by limiting access and use.
5. Any actions that could have significant long-term adverse effects on the aquatic habitats of the Potomac and Anacostia Estuaries and other estuaries in the Region, such as the destruction of breeding areas, should not be undertaken.
6. Developments normally associated with excessive noise levels (e.g., highways, airports, and large outdoor sport venues) should not be located near wildlife habitat areas.
7. Protective measures should be utilized to prevent or minimize sedimentation, dissolved chemicals, petroleum products, and other pollutants from entering waterways and adversely affecting aquatic and terrestrial life.
8. All habitat areas should be protected from potential adverse impacts from surrounding activities by adequate landscaped buffer areas.
9. Landscaping practices should include native plant species that provide food or cover for wildlife.

10. Earth disturbances, such as dredging and filling operations, that disrupt and destroy aquatic and benthic organisms (plant or animal life whose habitat is the bottom of a sea, lake, or river) should be avoided.

11. Federal actions should ensure, to the extent feasible, that all streams and shorelines will be protected by a forested or other riparian buffer.

RELATED IMPLEMENTATION STRATEGIES

RELATING TO THE FEDERAL ENVIRONMENT ELEMENT

The implementation proposals are short-term and long-term strategies designed to carry out the federal interest policies. Where applicable, short-term strategies or measures are usually achievable within five years. Long-range strategies or measures may also be addressed within five years, but typically require five to twenty or more years to implement. The following proposals implement the federal policies set forth in the Federal Environment Element.

Environmental Conditions

Air Quality

Short-term Implementation Strategies

- 1. Federal agencies should: provide incentives to encourage telecommuting, alternate work schedules, and the use of mass transit, carpools, and vanpools; and work with local governments to identify adequate parking facilities for large vehicles to encourage vanpooling. . Executive Order 13150, "Federal Workforce Transportation Plan," is intended to reduce traffic congestion and air pollution. Agencies shall develop plans to implement this order in consultation with the Department of the Treasury, the Department of Transportation, the U.S. Environmental Protection Agency, the Office of Personnel Management, the Office of Management and Budget, and the General Services Administration.*
- 2. Federal agencies are strongly encouraged to locate federal facilities where good transit alternatives already exist or are planned. Such a policy will help agencies meet the goals and objectives of Executive Order 13150, as provided for in the Federal Facilities Element of the Comprehensive Plan.*
- 3. Each federal agency should develop and implement procedures to ensure compliance with State Implementation Plans (SIPs), approved or promulgated by the U.S. Environmental Protection Agency, to achieve the intent of Section 176(c) of the 1977 amendments to the Clean Air Act (42 U.S.C. 7401- 7642).*
- 4. Site and building projects submitted to the Commission for review should avoid the use of building materials that may have an adverse impact on air quality and federal agencies should eliminate such materials from their buildings where they are present.*
- 5. Executive Order 13123, "Greening the Government Through Efficient Energy Management," encourages federal agencies in the NCR to reduce various emissions that contribute to air pollution and climate change, and to promote the development of energy efficient building design, construction methods, and operations. To help achieve this goal, in*

accordance with Executive Order 13149, each federal agency operating 20 or more vehicles shall reduce its entire vehicle fleet's annual petroleum consumption by at least 20 percent by the end of FY 2005.

6. Federal agencies in the NCR should: (1) maximize the use of safe alternatives to ozone depleting substances, as approved by the EPA's Significant New Alternatives Policy program; (2) evaluate the present and future uses of ozone-depleting substances; and (3) develop plans to phase-out ozone depleting substances by 2010.

7. The Department of Defense should ensure that all non-combat military aircraft in the NCR, where practicable and without sacrificing national defense, comply with the same emission standards as civilian aircraft.

Long-term Implementation Strategies

8. In accordance with the provisions of Executive Order 13148, federal agencies in the NCR should phase-out the procurement of Class I ozone-depleting substances by 2010, except where otherwise necessary, such as for the Department of Defense. Federal agencies are also encouraged to require that all fleet vehicles be alternative fuel powered (e.g., hybrid, fuel cell, Compressed Natural Gas) by 2010.

Noise

Short-term Implementation Strategies

1. Federal agencies should cooperate with State and local authorities to ensure that federal activities comply with State and local noise regulations throughout the Region, to the greatest extent possible. Agencies should also analyze local land use planning and zoning information to avoid conflicts between local sensitive land uses and noise generating activities at nearby federal installations. Federal agencies should avoid locating in proximity to sensitive natural resource areas and features.

2. Site and building plans and master plans submitted to the Commission should include, where applicable, Ldn 65-75 (NEF 30-40) zones, to ensure compatibility between airport operations and proposed land uses and activities. Environmental documentation accompanying these submissions should include interior and exterior daily average noise levels and mitigation measures, where necessary, to achieve acceptable sound levels. Measures may include natural and man-made buffers to reduce the effects of noise and to achieve acceptable noise levels that can protect nearby communities.

3. During the design phase of any significant construction, all noise sources should be evaluated from the perspective of potential noise receiving properties.

4. In an effort to ensure a quieter environment in the Region, the Federal Aviation Administration should ensure that by 2004, all of the noisier "Stage II" aircraft are phased out of use in the NCR as required by the Airport Noise and Capacity Act, 1990. The Act requires

aircraft weighing over 75,000 pounds to meet the “Stage III” engine noise emission limits by December 31, 1999. The Federal Aviation Administration should ensure that this requirement is enforced in the NCR.

Long-term Implementation Strategies

5. Through the identification of proven substitutes, procurement practices, and established facility management practices, including noise prevention, federal agencies shall reduce their use and procurement of equipment that produce high levels of noise.

6. Agencies should use alternative and new technologies and methods that produce low noise levels and employ available noise control technology: in redesigning or replacing of noisy equipment, making structural and mechanical modifications, and in employing mufflers, vibration isolators, or noise protection enclosures.

Water Quality

Short-term Implementation Strategies

1. Federal agencies should adhere to the standards and procedures of the Clean Water Act of 1977 in conducting their operations and activities and agencies should cooperate with state and local authorities to ensure compatibility with existing local water quality standards throughout the Region.

2. Federal agencies should assist and cooperate with local authorities in determining the need and feasibility of replacing existing combined sewer systems with separate storm water and sanitary sewer systems for local authorities that have not already done so, and continue to support projects that are intended to improve water quality management in the Region. In addition, federal agencies, where practicable, should routinely monitor, modernize, and upgrade water and sewer lines and stormwater handling systems at federal facilities and utilize alternative and new technologies to correct infiltration and inflow.

3. Federal agencies should continue to coordinate with local and regional authorities to help develop solutions to the Region’s sludge and wastewater disposal problems where they occur and consider the use of vacant federal land for limited disposal purposes if: (a) the land is not currently used for research and/or experimental functions, and/or (b) the disposal activity would not hamper or disrupt future utilization of the land for federal purposes.

4. In accordance with the provisions of the Chesapeake Bay 2000 Program, and in coordination with EPA and regional governments, federal agencies should develop land use and development guidelines which: (a) promote ecologically based development proposals and designs that limit impervious cover in undeveloped and moderately developed portions of watersheds; (b) reduce the amount of existing impervious cover in developed watersheds by 2002; and (c) free the Bay of toxins by significantly reducing or eliminating chemical contaminants from all controllable sources.

5. *Where federal agency activities impact regional water resources (tributaries, watersheds, and rivers) agencies should assist local government efforts to achieve and maintain the nutrient reduction goals agreed upon in accordance with the Chesapeake Bay 2000 Programs.*

6. *Federal agencies should comply with Executive Order 13148, "Greening the Government Through Leadership in Environmental Management," which encourages the use of regionally native plants for landscaping; the prevention or reduction of air and water pollution through improved management practice; and the reduction in the use of toxic chemicals, pesticides, fertilizers, and other harmful substances that could impact water quality.*

Long-term Implementation Strategies

7. *Jurisdictions with tidal waters are encouraged to evaluate the adequacy of existing water quality standards by 2003. EPA will work expeditiously to review existing or revised standards, which will then be used as the basis for removing the Bay and its tidal rivers from the list of impaired waters by 2010.*

8. *Federal agencies should continue efforts to support the restoration of the Anacostia River, the Potomac River, and their watersheds, as models of urban river restoration in the Bay basin. By 2010, the federal government, in coordination with the District of Columbia and its watershed partners, should reduce pollution loads to the Anacostia River and achieve the water quality and habitat goals of the Chesapeake Bay 2000 Program Agreements. As mentioned in the Water Quality section, green roofs, rainwater collection systems (that can be used for gray water reuse in areas such as irrigation and fire suppression systems), and white roofs (to help reduce heat island effects) are example of innovative sustainable features.*

9. *Federal projects, particularly new facilities, beginning design in FY 2005 or later should be designed to meet at least the Silver Certification standards under the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) program. This would set a baseline in terms of all new projects using standards that have already been implemented by a number of agencies (the U.S. Department of State Federal Office Building, for example).*

Water Supply

Short-term Implementation Strategies

1. *Federal agencies should continue to assist and coordinate with regional governments to ensure adequate water supply resources through the use of the Potomac River estuary water as a supplemental supply of water (while still maintaining estuarine environmental quality). In addition, agencies with significant water-related activities or proposals should coordinate with the Interstate Commission on the Potomac River Basin. The Commission performs source water assessments for the District of Columbia and may assist in identifying potential problems with the water supply.*

2. *Federal actions should encourage projects that are intended to supplement the Region's water supply during periods of low-flow and high demand.*

3. *In coordination with the Metropolitan Washington Council of Governments, federal agencies should periodically review and update their water shortage emergency plans and conservation programs. The regional Water Shortage Emergency Plan and the Low Flow Allocation Agreement should be implemented through federal, regional, and local efforts during times of water shortages.*

4. *Federal and non-federal agencies should monitor their usage of water in the Region and expand their current water use reduction programs in compliance with Section 503 (f) of Executive Order 13123. The work of the Regional Water Supply Task Force should be continued and a specific plan should be developed and implemented to help meet future water supply needs.*

Solid Waste Management

Short-term Implementation Strategies

1. *Federal agencies, particularly the EPA, should increase their efforts in developing and sponsoring new forms and methods of solid waste disposal and resource recovery. Similarly, federal agencies should adopt or expand existing, effective waste reduction measures, such as the simplification and reduction of packaging; the separation of waste paper, glass, and metals; waste oil recycling; the use of composted sludge as soil conditioner, where appropriate; and the use of recycled materials.*

2. *In compliance with Executive Order 13101, federal agencies should establish a model demonstration program incorporating some or all of the following elements: (a) demonstrating and testing new and innovative solid waste management approaches such as incorporating environmentally preferable bio-based products; (b) utilizing products containing materials that can be re-used or recycled; (c) expanding collection programs and implementing source reduction programs; (d) composting organic materials, when feasible; and (e) exploring public/private partnerships to develop markets for recovered materials.*

3. *Federal agencies that have not already done so should initiate a program to promote cost-effective waste prevention and recycling programs in their facilities in the NCR, as required by Executive Order 13101. Waste prevention and recycling programs must be compatible with applicable state and local recycling requirements.*

Hazardous Waste Management

Short-term Implementation Strategies

1. *Federal agencies, when reviewing issues of HAZMAT, should comply with the procedures embodied in the National Environmental Policy Act of 1969 (NEPA) and, where applicable, the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act 1980, as amended.*

Long-term Implementation Strategies

2. *Through the use of proven substitutes and established federal facility management practices, including pollution prevention, federal agencies should reduce their use and generation of toxic chemicals, hazardous substances, and other harmful pollutants at their facilities by 50 percent by 2006, in accordance with EPA objectives.*
3. *Federal agencies seeking to achieve the brownfield redevelopment goals of rehabilitating and restoring NCR brownfield sites to productive use by 2010 should ensure that they comply with all applicable NEPA guidelines, processes, and procedures.*
4. *In compliance with Executive Order 13123, and through innovative pollution prevention and effective facility management, federal agencies in the NCR should reduce their reported Toxic Release Inventory releases and off-site transfers of toxic chemicals for treatment and disposal by 10 percent annually, or 40 percent overall by 2006, in conformance with EPA objectives.*
5. *In compliance with Executive Order 13148, federal agencies should adopt a goal of reducing, where cost-effective, the agency's total releases of toxic chemicals to the environment and off-site transfers of such chemicals for treatment and disposal.*

Environmental Justice

Short-term Implementation Strategies

1. *Federal agencies should reduce or eliminate harmful effects on human health and the environment resulting from releases of pollutants to the environment. Agencies should inform the public of possible sources of pollution resulting from federal facility operations.*
2. *Federal agencies in the NCR should implement the provisions contained in Executive Order 12898, "Federal Actions to Address Environmental Justice In Minority and Low Income Populations." Where recognized adverse conditions are believed to exist on land previously used for federal activities, the federal government should carry-out, as necessary and where applicable, the appropriate provisions of the Comprehensive Environmental Response, Compensation, and Liability Act 1980, as amended.*
3. *Federal agencies with development proposals that may impact nearby communities should coordinate with EPA to identify areas with Environmental Justice concerns prior to development. Using Geographic Information Systems (GIS) data, EPA can geographically identify demographic and economic clusters and where disproportionate effects on minority, low-income, and educationally disadvantaged populations are likely to occur.*
4. *In coordination with EPA and the local government authorities, federal agencies should examine economic development opportunities to make sure that they complement Environmental Justice initiatives in communities. Economic redevelopment efforts are made increasingly difficult by uncertainties resulting from superfund related liabilities, costs, and cleanup. In the NCR, federal agencies should strive to remove barriers to the re-use of brownfield properties.*

Radiofrequency Radiation and Electromagnetic Fields

Short-term Implementation Strategies

- 1. Federal agencies with proposals to install transmitting antennas should coordinate with the Federal Communications Commission (FCC) to determine compliance with FCC's standard for human exposure to RF radiation. The FCC provides applicants with guidance in the form of a technical bulletin, which is designed to facilitate an applicant's ability to determine whether or not his project is in compliance, prior to submitting an application.*
- 2. Prior to the installation of any antenna(s) on federal property in the NCR, federal agencies shall submit (pursuant to Section 5 of the National Capital Planning Act of 1952 (Planning Act)) plans and proposals to the National Capital Planning Commission for its review and action.*
- 3. Federal agencies should coordinate and consult with the NCPC on antenna proposals and obtain the Commission's "Guidelines and Submission Requirements for Antennas on Federal Property in the National Capital Region" at the earliest opportunity, in the preparation of plans for antenna installations.*
- 4. Prior to the installation of antenna(s) on federal property, applicants must provide certification, as part of their submission to the NCPC for its review and action and in accordance with the NCPC Antenna Submission Guidelines, that the proposed transmitting antenna complies with RF radiation guidelines adopted by the FCC.*
- 5. Pursuant to FCC guidelines, federal agencies responsible for antenna installations should develop an RF exposure protection program that addresses safety and health issues including training, emissions monitoring, protective procedures, engineering controls, hazard assessments, employee involvement, and designated responsibilities for program implementation. Federal agencies that have an RF exposure protection program are encouraged to periodically update their protection guidelines as necessary in accordance with current FCC policies.*

Long-term Implementation Strategies

- 6. In relation to antennas sited within or near schools or daycare facilities, RF beams of greatest intensity from antennas should not fall on any part of the school grounds or building. Federal agencies are encouraged to remove or redirect RF beams from antennas as appropriate, and remove overhead power lines currently in the vicinity of school grounds.*
- 7. Federal agency-supported projects should avoid conducting activities in the area of power lines and other sources of potentially high EMF, particularly in the case of daycare or school facilities. Locating child play areas or exterior activity areas directly under power lines, adjacent to high-voltage power transformers for underground lines, or near large electrical substations, should be avoided.*

Environmentally Sensitive Areas

Floodplains

Short-term Implementation Strategies

- 1. Site and building plans and master plans submitted to the Commission for review should indicate, where applicable, the 100-year flood level and the type (e.g., coastal, riverine) of floodplain involved.*
- 2. Federal agencies in the NCR should use, when appropriate, nonstructural measures to modify the impact of flooding.*
- 3. Federal agencies should comply with the provisions of the Coastal Zone Act, which requires federal agencies to be consistent with state coastal zone management programs when conducting activities that affect a coastal zone.*
- 4. Federal agencies are also encouraged to comply with local government ordinances established under the National Flood Insurance Program. Federal agencies should consult with the States of Maryland and Virginia and also the District of Columbia (whichever applies) prior to taking any action on a development proposal within or adjacent to defined coastal zone areas, and prior to undertaking any mitigation measures to alleviate any adverse impacts on the coastal area.*
- 5. Recognizing that, in the NCR, some development in the floodplain is necessary, federal agencies, when assessing the effects of a proposed action in a floodplain, should analyze: flood characteristics upstream and downstream; flood characteristics within the floodplain itself; and, if applicable, the potential adverse effects of its actions on the coastal zone areas.*
- 6. Any federal undertaking that is proposed to be located in or adjacent to the coastal zone, or that will have an indirect adverse impact on the coastal zone should include all practical measures to minimize harm to critical coastal resources.*

Wetlands

Short-term Implementation Strategies

- 1. Site and building plans and master plans submitted to the Commission for review should indicate the location of wetlands that will be directly or indirectly affected by development proposals.*
- 2. An inventory and classification of wetlands in the Region should continue to be maintained by the U.S. Fish and Wildlife Service to encourage preservation and protection of wetland areas.*
- 3. When development in a wetland is deemed to be the only practicable alternative, federal agencies should coordinate the development with affected state and local authorities. Project*

and master plans should include all practicable measures to minimize adverse impacts on wetland acreage and function.

4. Federal agencies, in developing project and master plan proposals, should apply a “no-net loss” policy to proposals affecting wetlands acreage and function. This practice would also assist local jurisdictions in achieving their own wetland retention goals.

Long-term Implementation Strategies

5. In accordance with the Chesapeake Bay 2000 Program’s goals and objectives, federal agencies should assist in achieving restoration of 25,000 acres of tidal and non-tidal wetlands by 2010. Federal agencies, where applicable, should work with state and local governments, as well as the EPA, to achieve and maintain an average restoration rate of 2,500 acres per year throughout the NCR portion of the Bay watershed.

6. In accordance with the Bay Program goals and objectives, to preserve key wetlands while addressing surrounding land use, federal agencies in the NCR should assist in implementing the program’s wetlands plan by 2010.

7. In accordance with the Bay Program goals and objectives, federal agencies, when necessary, should provide information and assistance to local governments and community groups developing and implementing wetlands preservation plans as a component of a locally based integrated watershed management plan.

8. Federal agencies that have jurisdiction over riverine environments in the NCR should, where applicable, create new wetland areas to restore the benefits associated with natural wetland functions such as sustainable wildlife and aquatic habitats.

Aquifers and Recharge Areas

Short-term Implementation Strategies

1. Plans for development proposals submitted to the Commission should indicate the location of affected aquifer areas and the impact the proposal could have on these areas, such as permeability and recharge time.

2. Federal proposals for use of groundwater should contain a detailed analysis of potential hydrologic effects.

Soils and Vegetation

Short-term Implementation Strategies

1. All development projects (e.g., modifications, additions) submitted to the Commission for review should contain a soil analysis report describing soil characteristics and limitations and identifying known fault lines.

2. *Federal agencies, in order to encourage reducing soil loss, should investigate the planting of steep slopes (25 percent and greater) on federal lands that do not have vegetation, and encourage landscaping, including street-tree plantings and maintenance programs throughout the Region, especially in the central area of the District of Columbia.*

3. *In accordance with the provisions of Executive Order 13123, “Environmentally and Economically Beneficial Landscaping,” each agency in the NCR should strive to promote the sustainable management of federal lands through the implementation of cost-effective, environmentally sound landscaping practices and programs to reduce adverse impacts on the region’s natural environment.*

4. *Federal agencies should procure recycled content products that can be used as compost and mulch and contribute to environmentally and economically beneficial landscaping practices. Where applicable, federal agencies should implement the practices contained in the Presidential Memorandum on “Environmentally and Economically Beneficial Landscape Practices on Federal Landscaped Grounds.”*

5. *Federal agencies should provide technical and financial assistance to local governments to plan for or revise plans, ordinances, and subdivision regulations that will provide for the protection, conservation, and sustainable use of natural resource lands, forests, and agricultural lands.*

Long-term Implementation Strategies

6. *Federal agencies, in coordination with EPA and state and local governments, should strengthen land acquisition and preservation programs within each state, targeting the most valued lands for protection. A goal to permanently preserve from development 20 percent of the land area in the Chesapeake Bay watershed should be established.*

7. *Federal agencies, in coordination with the District of Columbia, should provide assistance (technical or financial) to the District Department of Public Works to ensure the replacement of street trees to mitigate the impacts of federal activities and related development in the District. As a major property owner in the District, the federal government should assist the District in its efforts to meet its tree planting and replacement goals.*

Wildlife and Aquatic Habitats

Short-term Implementation Strategies

1. *The Commission and all other federal agencies reviewing development proposals on lands adjacent to habitat areas should carefully evaluate proposals’ impacts, direct or indirect, on the habitat areas.*

2. *Federal agencies should comply, as required, with Section 7 of the Endangered Species Act, which requires agencies to prevent or modify any project that would jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of such species.*

3. *Federal agencies should comply with the requirements of the Fish and Wildlife Coordination Act, which requires federal agencies to consider the effect that water-related projects would have on fish and wildlife resources, and take action to prevent loss or damage to these resources, and provide for the development and improvement of these resources.*
4. *Federal agencies should provide landscaped buffer areas at the perimeter of habitat reservations to ensure protection of the habitat area from potential adverse impacts from surrounding uses.*
5. *Federal agencies should continue to support conservation and restoration of stream corridors and riparian forest buffers and should promote the restoration and protection of all regional watersheds, such as the Anacostia River Watershed.*
6. *Federal agencies should encourage building design and construction practices that: (a) minimize natural area loss in new construction and in rehabilitating existing federal facilities; (b) use best management technologies for stormwater management and erosion and sediment control; (c) reduce impervious surfaces and utilize energy efficient technologies; and (d) use the Conservation Landscaping and Bay-Scapes Guide for Federal Land Managers.*
7. *Federal agencies must comply with the provisions of the Chesapeake Bay 2000 Program, where applicable, to help state and local governments restore and protect finfish, shellfish, and other living resources and their habitats, and help provide for a balanced ecosystem.*

DEFINITIONS

Federal Environment Element

Ambient Noise: *The existing or background sound level for an area, normally being a composite of sounds from various sources.*

Antennae, Antenna: *A metallic device (rod, whip, dish or other) instrument used for radiating (sending) or receiving radio or micro waves.*

Antenna Task Force: *A body comprised of NCPC Commission members and federal and local government officials, established in 1994 to explore visual impacts and other issues associated with the installation of antennas in the National Capital Region.*

Benthic Organisms: *Benthos refers to organisms that live in, on, or near the bottom of waterbodies, including plants, invertebrates, and fish of all sizes. Benthic organisms are good environmental indicators. Their relative immobility means they are continually exposed to any pollutants bound to sediments. Being on the bottom of waterbodies they are first to experience the effect of oxygen depletion. Many researchers focus on the benthic infauna, consisting largely of marine worms, brackish-water clams, other mollusks, and small crustaceans.*

Best Management Practices: *Controls which seek to limit the effects of runoff from impervious surfaces such as streets, sidewalks, parking lots and roof tops, and yards, construction sites, and agricultural land.*

Blue Plains Waste Water Treatment Facility: *The wastewater treatment facility located on the Potomac River and just north of Oxon Cove and the Wilson Bridge. The facility serves the District of Columbia and portions of the states of Maryland and Virginia.*

Brownfield: *Abandoned, idle, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.*

Bio-energy: *Biomass or organic vegetation and their co-products which have stored energy from photosynthesis.*

Biobased Product: *A commercial or industrial product (other than food or animal feed) that uses biological products or renewable domestic agriculture (plant, animal, and marine) or forestry materials.*

Diabase Clay: *Fine grained clay with silicon oxide content between 52 percent and 65 percent.*

Ecosystems: *The natural biological community that occurs in some location without boundaries and the physical and chemical factors that make up its non-living environment. Examples of ecosystems include a pond, forest, an estuary, or grassland.*

Electromagnetic Energy: *A form of radiated energy moving through space in the form of waves or particles. Radio waves and microwaves are forms of electromagnetic energy that are collectively described by the term “radiofrequency” or “RF.” RF emissions and associated phenomena can be discussed in terms of “energy,” “radiation,” or “fields.”*

Estuary: *That part of the mouth or lower course of a river in which its current meets the sea’s tides and is subject to their effects. An arm or inlet of the sea. Also an area where fresh water meets salt water forming a delicate ecosystem that serves as a nursery, spawning, and feeding ground for groups of marine life and provides shelter and food for birds and wildlife.*

Eutrophication: *Growth in primary plant production, usually due to excessive nutrient inputs to the ecosystem. Eutrophication happens both in water and on land (land ecosystem eutrophication manifesting itself in increased forest growth and changes in vegetation).*

Executive Order: *A legal proclamation or directive used by the President to exercise authority. Executive Orders are not required to be reviewed and approved by the congress to be legally binding.*

GIS- *Acronym for Geographic Information System, a computer system that stores and links non-graphic attributes or geographically referenced data with graphic map features to allow a wide range of information processing and display operations, as well as map production, analysis, and modeling.*

Green Roof: *Green roof development involves the creation of 'contained' green space on top of a man-made structure intended to mitigate roof run-off and other environmental effects. This green space can be below, at, or above grade, but in all cases the plants are not planted in the 'ground.' Green roofs are an extension of the existing roof, which involves a special root repelling membrane, a drainage system, a lightweight growing medium, and plants.*

Hazardous Waste (HAZMAT): *Discarded solid, liquid, or air-born waste material exhibiting traits that have been found to have a harmful impact on human health and the natural environment.*

Hydric Soil: *A soil that formed under conditions of saturation, flooding, or ponding during the growing season for a period that was long enough to develop anaerobic conditions in the upper part.*

Hydrophytic Vegetation: *In general terms, hydrophytic vegetation is plant-life that thrives in wet conditions.*

Landfill: *A system of trash and garbage disposal in which the waste is buried between layers of earth resulting in the build-up of low-lying land, also called a sanitary landfill.*

Leachate: *Material (usually liquid) percolated through another medium which has extracted, dissolved, or suspended materials within it.*

Nonattainment Area: *A nonattainment area does not meet the National Ambient Air Quality Standards. For example, Washington, Seattle, Tacoma and Spokane are nonattainment areas for ozone and Carbon Monoxide.*

Radiofrequency Electromagnetic Field: *The presence of electromagnetic energy at a given location. The field can be described in terms the electric and/or magnetic field strength at that location.*

Rain Garden: *A constructed and vegetated depressional area that is used as a landscape feature to improve water quality.*

State Implementation Plans (SIPs): *A plan which provides for the attainment and maintenance of the National Ambient Air Quality Standards throughout the states. SIPs contain legally enforceable compliance schedules setting forth the dates by which stationary and mobile sources must be in compliance with any applicable requirement of each respective Plan.*

Telecommunications Act of 1996: *The Act facilitates opportunities related to recent advancements in telecommunications technology. It supports economic enhancement, technology development, and job creation associated with this growth industry, through the auctioning of radio frequencies and increases in licenses for communications services, for example. The Act makes federal property available for the siting of mobile service antennas and, among its many provisions, provides for safeguards to human health and property.*

Transported Pollution: *Pollution levels that have moved from their point of origin to other impacted, but more remote areas.*

Tributary: *A stream or small waterway that feeds into a larger stream, lake, river, or larger body of water.*

NCPC's Guidelines and Submission Requirements for Antennas on Federal Property: *Guidelines developed by the National Capital Planning Commission to be used by federal agencies in the National Capital Region in the preparation and submission of plans for antenna installations.*

Waste-to-Energy Facility: *A facility that transforms waste products into energy through methods that include front- and back-end recycling, waste burning incineration, and comprehensive solid waste management.*

Water Supply Emergency Plan: *A plan that deals with the necessary curtailment of water use and other emergency actions during a water shortage or outage to water suppliers, local governments, and specified government agencies of the Metropolitan Washington Area.*

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Diagram 1: Federal Facilities in the National Capital Region

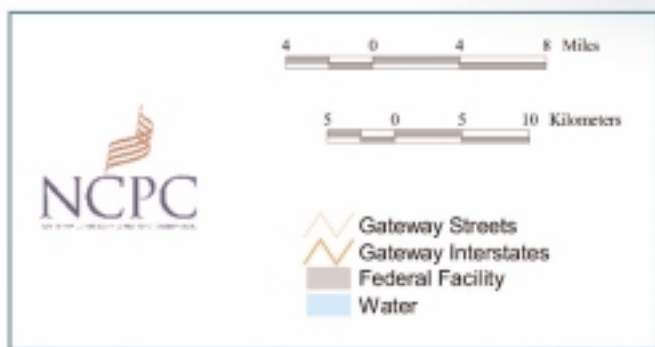
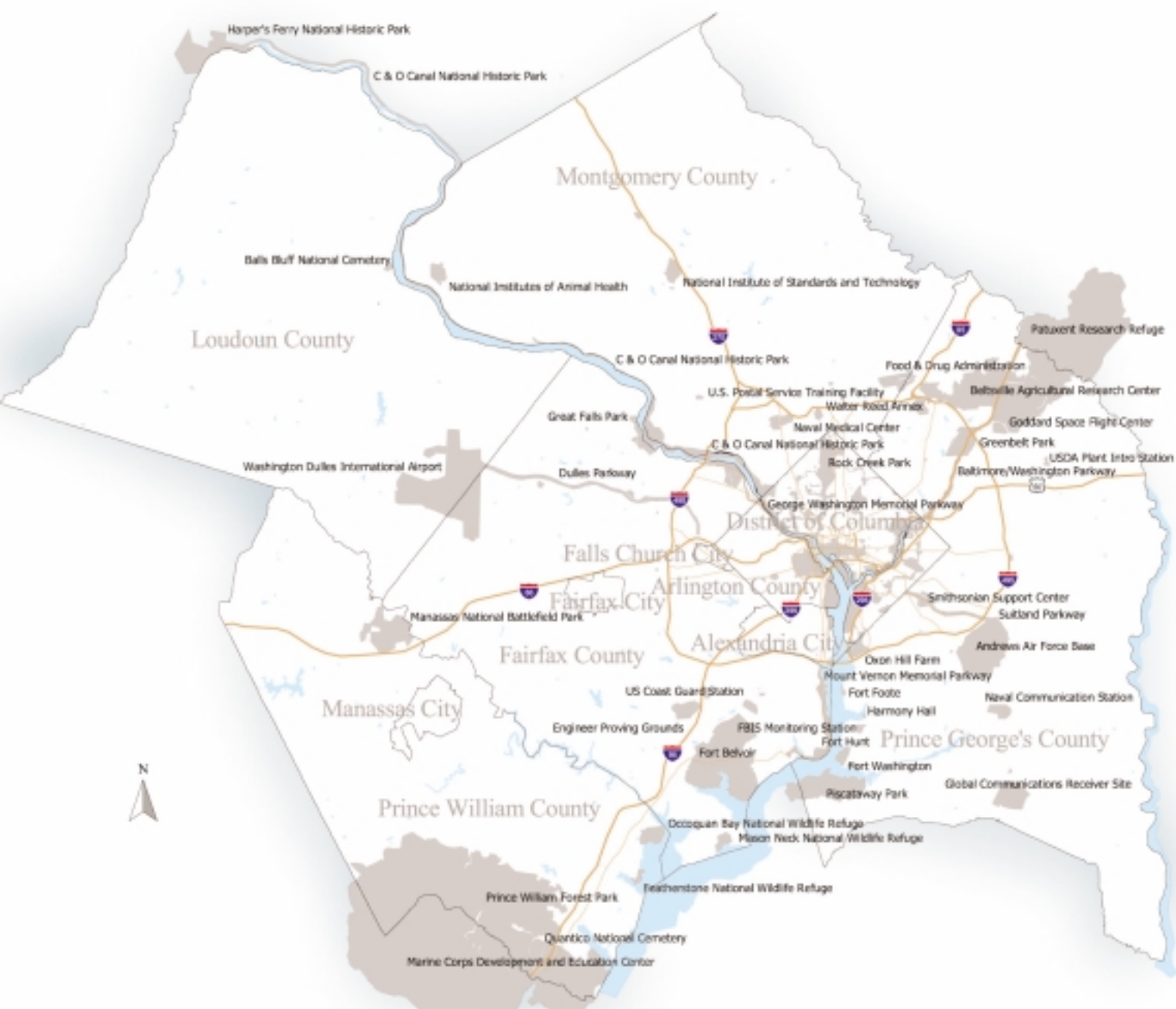
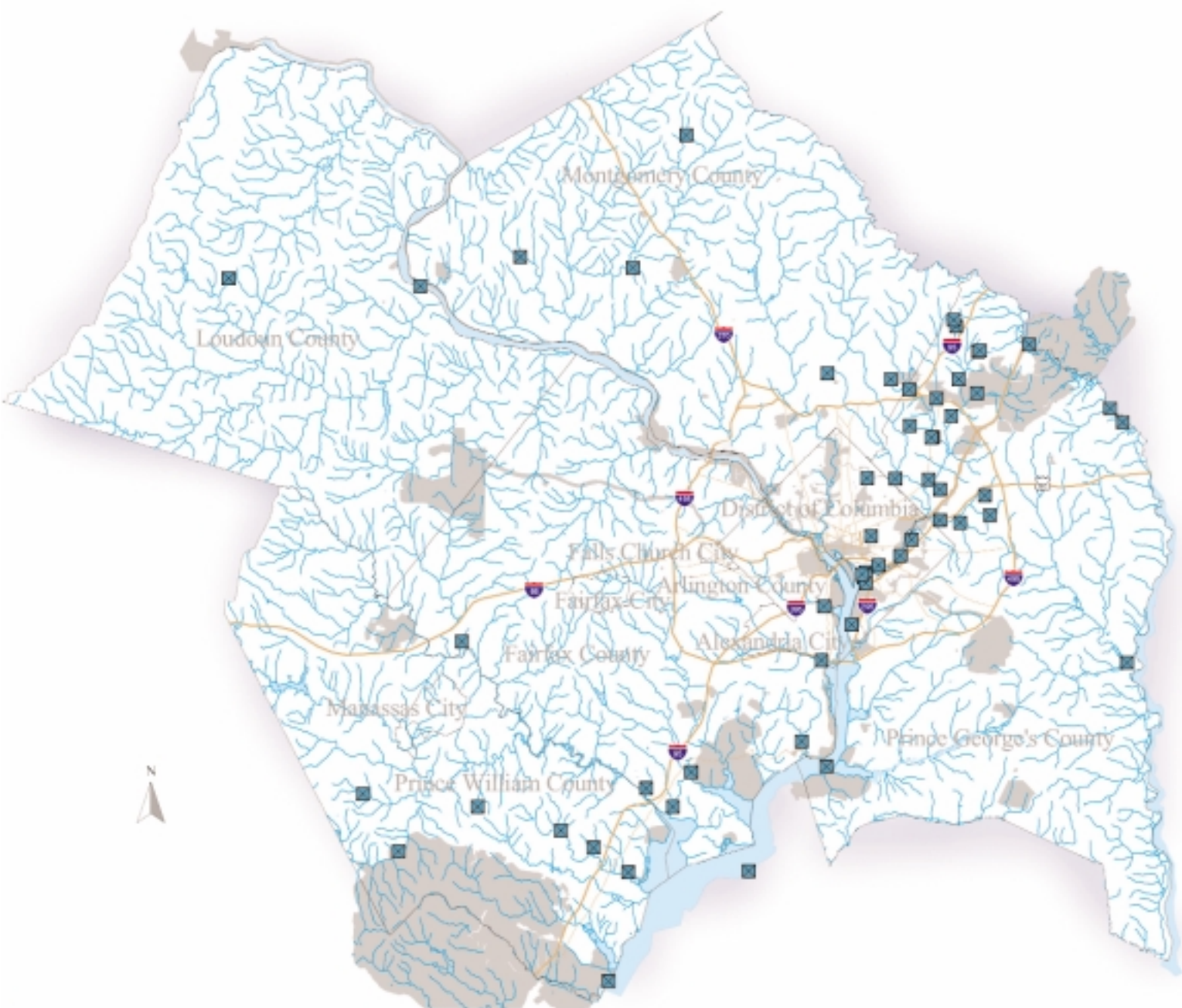


Diagram 2: Streams and Waste Water Treatment Sites in the National Capital Region



4 0 4 8 Miles

4 0 4 8 Kilometers



- Waste Water Treatment
- Streams
- Gateway Streets
- Gateway Interstates
- Federal Facility
- Water

Diagram 3: Wetland Areas in the National Capital Region

